

Abstract Submitted
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CFS, the high-field approach, and U.S. Strategic Planning

ROBERT MUMGAARD, Commonwealth Fusion Systems, CFS TEAM, SPARC TEAM — Commonwealth Fusion Systems (CFS) is an investment backed company developing the high-field approach to commercial fusion energy in conjunction with the MIT Plasma Science and Fusion Center through the deployment of SPARC and ARC. The ongoing strategic planning exercise for the FES-funded fusion science program presents an opportunity to bolster the entire burgeoning U.S. private fusion industry through the advancement of fusion science and technology and the deployment of unique test stands. The following elements of a U.S. strategic plan have been identified as strongly beneficial to the CFS commercialization effort: 1) A volumetric neutron source to test materials at fusion-relevant nuclear conditions. 2) Development of fusion-relevant nuclear materials. 3) A dedicated facility to study advanced divertor topologies in the relevant parameter range. 4) Development of commercially-relevant blanket systems. 5) Advancement of tritium science and technology. 6) Innovative plasma current drive. 7) Additive manufacturing of fusion materials. The role of each of these initiatives in the CFS high-field commercialization plan will be discussed. Work supported by Commonwealth Fusion Systems.

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